



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|-----------------------------|---------------------|------------------|
| 10/765,061 | 01/28/2004 | Alwin Lee | 32052-8295.US | 2327 |
| 25096 7590 11/09/2009 PERKINS COIE LLP PATENT-SEA P.O. BOX 1247 SEATTLE, WA 98111-1247 | | | | |
| EXAMINER RILEY, MARCUS T | | | | |
| ART UNIT 2625 | | PAPER NUMBER | | |
| NOTIFICATION DATE 11/09/2009 | | DELIVERY MODE ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentprocurement@perkinscoie.com
skempe@perkinscoie.com

Office Action Summary

Application No.

10/765,061

Applicant(s)

LEE ET AL.

Examiner

MARCUS T. RILEY

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 1-4, 8-24, 30 and 33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-7, 25-29, 31, 32 and 34-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/14/2004; 07/26/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This office action is responsive to the applicant's remarks received on March 9, 2009. **Claims 1-39** are pending. **Claims 1-4, 8-24, 30 & 33** have been cancelled.

Response to Arguments

2. Applicant's arguments with respect to amended **claims 25-27, 31 & 32** and newly added **claims 34-39** filed on June 6, 2009 have been fully considered but they are not persuasive.

A: Applicant's Remarks

For Applicant's Remarks see "*Applicant Arguments/Remarks Made in an Amendment*" filed June 6, 2009.

A: Examiner's Response

Applicant argues that Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination fails to disclose, teach or suggest "identifying the individual area as containing image or text based at least in part on the chosen area background color".

Examiner understands the Applicant's arguments but respectfully disagrees. Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination discloses, teaches or suggest the Applicant's claimed invention. Fig. 1, #5005 of Koga '711 discloses a Background Image segment 2-2. For example, #5005 identifies the image portion based at least in part on the second

background color. #5006 shows the character portion based at least in part on the second background color. Column 4, lines 22-25 explains where there are second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means. Moreover, Fig. 45 shows plurality of first areas. The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally and one pixel in each block. The image is reduced by $\frac{1}{2}$ vertically and horizontally can be created. Each may be an image or text area. Thus, Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination discloses, teaches or suggest the Applicant's claimed invention.

As a result, claim 5 is not patentable over Koga '711, Kanemitsu '603 and Bearss '221 either alone or in combination. Accordingly, Applicant's application is not in condition for allowance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 5-7, 25-29, 31, 32 & 35-39 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101" – publicly available at USPTO.GOV, "memorandum to

examining corp”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. In order for a process to be “tied” to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 5-7, 25-29, 31, 32 & 35-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Koga et al. (US 6,556,711 B2, hereinafter Koga ‘711) in combination with Kanemitsu et al. (US 4,996,603, hereinafter Kanemitsu ‘603).

Regarding claim 5: Koga ‘711 discloses choosing a first background color (Fig. 1, #5002) from the master copy (Fig. 1, #5001, i.e. a background 5002 is extracted from an input image 5001. Column 7, lines 61-63);

wherein the master copy includes an image portion (Fig. 1, #5001, i.e. Input Image), a text portion (Fig. 1, #5001, i.e. Character 1), and an empty portion containing neither an image nor text (i.e. Fig. 7 shows an empty portion where no background image segment found.);

condensing the master copy based at least in part on the first background color by omitting the empty portion to create a condensed copy of the master copy the condensed copy containing only the image portion and the text portion (Fig. 1, #5003, i.e. The master copy 5001 is condensed into 3 segments, #'s 5002-5004. #5003, Intermediate Image segment 2-1-1 shows where the master copy 5001 is condensed only into an image and text portions).

transversely and vertically dividing the entirety of the condensed copy into a plurality of first areas (Fig. 45, Input Image. i.e. The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally and one pixel in each block. The image is reduced by $\frac{1}{2}$ vertically and horizontally can be created. Column 34, lines 5-11);

for each of the first area choosing a second background color from the first area (i.e. There are second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means. Column 4, lines 22-25);

determining where the first area includes the image portion or the text portion based at least in part on the second background color (Fig. 1, #5005, Background Image segment 2-2. i.e. #5005 shows the image portion based at least in part on the second background color. Column 4, lines 22-25);

if the first area includes the image portion, marking the first area as an image area (Fig. 1 #5002. i.e. A binary image is compressed by a compression method stored in the compressed-data header is registered as "image-segment shape". Column 22 lines 39-42);

if the first area includes the text portion, marking the first area as a text area (Fig. 1 #5003, i.e. Character 1 is the first text area. See also Column 22, lines 26-35);

if the first area cannot be identified as an image area or a text area, then replacing the first background color with the second background color (i.e. Under the control of an image-segment discrimination control step 31, the foregoing steps are repeated until there are no longer any undiscriminated image segments. As a result, image-segment components of each image segment are discriminated. Column 14, lines 56-60);

condensing the first individual area based at least in part on the second background color (i.e. The reduced image is obtained by reducing the size of the input image in the horizontal and vertical directions. Column 33, lines 57-59);

transversely and vertically dividing the first area into a plurality of second individual areas (Fig. 45, Input Image. i.e. The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally and one pixel in each block. The image is reduced by $\frac{1}{2}$ vertically and horizontally can be created. Column 34, lines 5-11);

and for each of the second areas determining whether the second area includes the image portion or the text portion based at least in part on the second background color (Fig. 1, #5005 & 5006, Background Image segment 2-2. i.e. #5005 shows the image portion based at least in part on the second background color. The second extraction means for extracts an image segment from the input color image using data of the image segment extracted by the first extraction means. Column 4, lines 22-25);

if the second area includes an image portion, marking the second individual area as an image area (Fig. 1, #5005, Background Image segment 2-2. i.e. #5005 shows the image portion based at least in part on the second background color. Column 4, lines 22-25);

and if the second area includes a text portion, marking the second individual area as a text area (Fig. 1, #5006, Intermediate Image segment 2-2-1. i.e. #5006 shows Character 2 based at least in part on the second background color. Column 4, lines 22-25 and see Column 22, lines 26-35).

Koga '711 does not expressly disclose processing images with halftone processing, processing text with line art processing and outputting the processed images and processed text as a whole.

Kanemitsu '603 discloses processing image areas with halftone processing (Fig. 4, Half-Tone Processing Circuit #2. i.e. When the circuit 3 detects a photo portion, the half -tone signal HTS is selected. The half-tone signal HTS of FIG. 4 is selected as the half-tone image portion. Column 4, lines 36-39 and 57-58);

processing text areas with line art processing (Fig. 4, Fixed Slice Processing Circuit #3. i.e. When the circuit 3 detects a character portion, the fixed slice signal FSS is selected. column 6, lines 36-39);

outputting the processed images and processed text as a whole (Fig. 4, Selection Circuit Output #4, i.e. Reference Fig. 1 where #100 is the original image with images and characters. The original image is reproduced as a whole, #104, Column 3, lines 1-13).

Koga '711 and Kanemitsu '603 are combinable because they are from same field of endeavor of an image processing apparatus ("*Image Processing System*" Kanemitsu '603, see eg. Title).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Koga '711 by processing image areas with halftone processing, processing text areas with line art processing and outputting the processed images and processed text as a whole as taught by Kanemitsu '603. The motivation for doing so would have been because this would enable clear reproduction of an original document including mixed characters, ruled lines, and photos. Therefore, it would have been obvious to combine Koga '711 with Kanemitsu '603 to obtain the invention as specified in claim 5.

Regarding claim 6; Koga '711 as modified does not expressly disclose where said halftone processing comprises a dithering process.

Kanemitsu '603 discloses the halftone processing is a dithering process (i.e. The multi-level signal of the photo portions of the original image is binary-coded by the half-tone processing method based on dithering for binary coding the multi-level signal based on a predetermined dither pattern. Column 3, lines 19-23).

Koga '711 and Kanemitsu '603 are combinable because they are from same field of endeavor of an image processing apparatus ("*Image Processing System*" Kanemitsu '603, see eg. Title).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Koga '711 by making the halftone process comprise of a dithering process as taught by Kanemitsu '603. The motivation for doing

so would have been because this would enable clear reproduction of an original document. Therefore, it would have been obvious to combine Koga '711 and Kanemitsu '603 to obtain the invention as specified in claim 5.

5. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Koga '711 and Kanemitsu '603 as applied to claim 1 above, and further in view of Bearss et al. (US 5,987,221 hereinafter Bearss '221).

Regarding claim 7; Koga '711 as modified does not expressly disclose where the dithering process comprises a sampling mode dithering.

Bearss '221 discloses where the dithering process comprises a sampling mode dithering (Fig. 2 is a "FIG. 2 is a block diagram of a threshold dither matrix. The orphan placement may also vary given a different size window, such as for a 5x5 area window, a 1x3 area window, or for a multiple sampling/detection window configuration. See Column 4, lines 23-24 and Column 6, lines 42-47).

Koga '711 and Bearss are combinable because they are from same field of endeavor of an image processing apparatus ("*This invention relates in general to imaging systems...*" Bearss '221 at Column 1, lines 6-9).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the image processing apparatus as taught by Koga '711 by adding where the dithering process comprises a sampling mode dithering as taught by Bearss. The motivation for doing so would have been because this would improve the rendering of complex images embodying text, line art and/or halftone data. Therefore, it would have been obvious to combine Koga '711 and Bearss to obtain the invention as specified in claim 5.

Regarding claim 25; Claims 25 & 31 contains substantially the same subject matter as claim 5. Therefore, claim 25 & 31 are rejected on the same grounds as claim 5.

Regarding claim 26; Koga '711 discloses wherein dividing the condensed document includes dividing the condensed document transversely and vertically into a plurality of individual areas, and the method further includes (Fig. 45, Input Image. i.e. The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally and one pixel in each block. The image is reduced by $\frac{1}{2}$ vertically and horizontally can be created. Column 34, lines 5-11):

if one of the individual areas cannot be identified as containing image or text, omitting sub-areas in the individual area that contain neither image nor text based at least in part on the chosen area background color to create a condensed area (See Figure 7 where the "No Background Image Segment" is omitted. See column 33, lines 57-59 wherein Koga teaches condensing the master copy based at least in part on the first background color *"Here the reduced image is obtained by reducing the size of the input image in the horizontal and vertical directions..."* column 33, lines 57-59);

dividing the condensed area into a plurality of individual sub-areas (Fig. 45, Input Image. i.e. The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally and one pixel in each block. The image is reduced by $\frac{1}{2}$ vertically and horizontally can be created. Column 34, lines 5-11);

and for each of the individual sub-areas, choosing a sub-area background color based on the individual sub-area (i.e. There are second extraction means for extracting an image segment from the input color image using data of the image segment extracted by the first extraction means. Column 4, lines 22-25);

and identifying the individual sub-area as containing image or text based at least in part on the chosen sub-area background color (Fig. 1, #5005, Background Image segment 2-2. i.e. #5005 shows the image portion based at least in part on the second background color. Column 4, lines 22-25).

Regarding claim 27; Koga '711 discloses wherein identifying the individual area as containing image or text includes identifying the individual area as containing image or text based on bit depth distribution, the identified image area containing an image, the area background color, and the document background color, the identified text area containing text, the area background color, and the document background color (Fig. 1, i.e. Fig. 1 shows where #'s 5002-5004 shows image and the area background color, #5001 shows the document background color, #5002 shows the area background color, #'s 5003 & 5004 characters 1 & 2 shows the identified text areas containing text in #5001. See also Column 3, lines 60-67).

Regarding claim 28; Koga '711 discloses wherein choosing an area background color includes choosing an area background color that is different than the document background color (See Figure 1 wherein #5004 is the same as character 2 in #5001. Fig. 1 shows area background color that is different than the document background color. Character 2 in #5004 is different than Character 1 in #5001).

Regarding claim 29; Koga '711 discloses wherein choosing an area background color includes choosing an area background color that is the same as the document background color (See Figure 1 wherein Fig. 1 shows an area background color that is the same as the document background color. Character 2 in #5004 is the same as Character 2 in #5001).

Regarding claim 32; Koga '711 discloses wherein dividing the condensed document includes dividing the condensed document transversely or vertically into the first area and the second area (*"The input image is divided into blocks 3101 of two pixels vertically and two pixels horizontally (for a total of four pixels) shown in FIG. 45, and one pixel in each block (say a pixel 3102 in the upper left-hand corner) is made one corresponding pixel 3103 of the reduced image, whereby an image reduced by ½ vertically and horizontally can be created."* column 34, lines 5-11).

Regarding claim 34; Koga '711 discloses wherein outputting the processed images and processed text as a whole includes faxing the processed images and processed text (i.e. The image processing apparatus and method described in Figs.1 & Step 5 of Fig. 2can be output in a color facsimile. Column 8, lines 23-33).

Regarding claim 35; Koga '711 discloses copying the master copy (Fig. 3, Color Input Image 1001, i.e. Color image input unit 1001 may be an input unit for reading in an image by a color image scanner. Column 3, lines 18-24).

Regarding claims 36 & 38; Claims 36 & 38 contains substantially the same subject matter as claim 34. Therefore, claims 36 & 38 are rejected on the same grounds as claim 34.

Regarding claims 37 & 39; Claims 37 & 39 contains substantially the same subject matter as claim 35. Therefore, claims 37 & 39 is rejected on the same grounds as claim 35.

Examiner Notes

6. The Examiner cites particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully considers the references in its entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or as disclosed by the Examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Marcus T. Riley
Assistant Examiner
Art Unit 2625

/MARCUS T. RILEY/
Examiner, Art Unit 2625

/David K Moore/

Supervisory Patent Examiner, Art Unit 2625